FERN Courier Exercise
Exchanging samples between MT, ND, SD, and WY
August 12, 2009
Final Report

Background:
The Northern Plains NLS Consortium, comprised of state public health professionals in Montana, North Dakota, South Dakota and Wyoming, participated in a Food Emergency Response exercise to determine if samples could be transported via a courier between our four laboratories in case air travel was unavailable. This exercise was supported by Montana's 2008-09 FERN Cooperative Agreement. The objectives of this exercise were:

1. Determine the feasibility of using ground transportation through an existing courier system to transport samples across state lines
2. Understand the specific challenges of using this method of transportation, and steps that are necessary to ensure success
3. Assess specimen integrity during the summer months when ambient temperatures may be high

Exercise Design:
Three identical Styrofoam boxes containing the same number and size of blue ice packs, frozen at -20°C and a temperature abuse indicator were packaged at each state Public Health Laboratory and labeled for delivery to the other three Public Health Laboratories. The temperature abuse indicator was affixed to a small brown box in the center of the Styrofoam cooler. On the morning of August 12, the courier serving that state Public Health Laboratory picked up the boxes and drove them to Sheridan, WY, the predetermined rendezvous point. At the time of pickup, each courier driver supplied contact information (name, cell phone number and the color and make of the vehicle). This information was forwarded to the Montana Public Health Laboratory who then provided that information to each courier. Tracking forms were provided to each courier driver to record the release time, the arrival time in Sheridan, WY, and the arrival time back at the originating state Public Health Laboratory. When the packages were received, they were immediately opened and the condition of the temperature abuse indicator was recorded. Since the packages arrived after normal business hours, use of either the 800# 24/7 emergency system, or prior arrangement to have packages delivered to a certain home address was also exercised.

The four courier systems involved were:

Montana: Medical Logistic Solutions
Contact: Kathleen Stenberg
kathleen@medicallogisticsolutions.com
303-917-8419

North Dakota: Integrated Commercial Solutions
Contact: Tim Whittaker
tim.whittaker@icsair.com
612-718-2863 (cell)
866-442-7247 (work)

South Dakota: Avera Laboratory Network
Contact: John Kangas
john.kangas@avera.org
jekangas@hotmail.com
605-261-8981

Wyoming: Action Cargo Express/ American Courier Corp
Contact: John Wallingford
johnwallingford@AmericanCourier.net
307-266-2229 (work)
307-262-7012 (cell)

Two conference calls were convened in June and July 2009 between the courier system contacts and appropriate staff at each state Public Health Laboratory. These calls worked out the logistics, using the expertise of the courier system contacts, and decided on a plan of action.

Results:
All courier drivers left the originating state Public Health Laboratories between 7:38 and 8:25 a.m., and arrived in Sheridan, WY within 30 minutes of the target 2:30 pm. Packages were exchanged at the following recorded times:

Exchange Times in Sheridan WY (all times Mountain Time)

Originating State	Time Exchanged with MT	Time Exchanged with ND	Time Exchanged with SD	Time Exchanged with WY
Montana		2:40 pm	2:15 pm	1:45 pm
North Dakota	2:30 pm		2:30 pm	2:30 pm
South Dakota	2:15 pm	2:30 pm		2:15 pm
Wyoming	1:45 pm	2:42 pm	2:15 pm	

Packages were received back at the destination state Public Health Laboratories at the following times, and transit hours were computed. In Montana and North Dakota, the courier drivers called the emergency 800# and contact was made with either the Lab Manager in charge (MT), the microbiologist on call (ND), or the Lab Director (SD) so that they could meet at the Public Health Laboratory. In Wyoming arrangements were made for the packages to be delivered to the BT Coordinator.

Receipt Times at Destination Public Health Laboratory

	Time Received in MT	Time Received in ND	Time Received in SD	Time Received in WY
	10:00 pm (MT)	10:15 pm (CT)	9:16 pm (CT)	7:51 pm (MT)
Hours in Transit	14 hours 15 min	13 hours 20 min	13 hours 38 min	12 hours 9 min

The condition of the temperature abuse indicator was assessed at arrival. Packages from ND, SD and MT had the indicator affixed to the top of the brown box, and all of these indicators showed moderate abuse. WY packages had the indicator affixed to the inside of the brown box in the cooler, more closely simulating where samples would be located, and in all 3 states receiving those packages, the indicator showed no abuse (SD), was slightly less compromised (MT), or showed moderate temperature abuse (ND, WY).

Costs were determined by the individual courier system and invoiced to the Montana Public Health Laboratory.

Montana: Medical Logistic Solutions Cost: $1101.00
North Dakota: Integrated Commercial Solutions Cost: $1384.17
South Dakota: Avera Laboratory Network Cost: $1511.10
Wyoming: Action Cargo Express Cost: $ 520.80

Total Cost of Courier: $ 4517.07

Discussion:
This exercise showed that it is feasible to use ground transportation through existing courier systems to transport samples across state lines. The contacts at the courier systems were able to work out the logistics and determine the best rendezvous point for all four systems.

This exercise was also useful in providing contact information for courier services in each state, since specimens near the borders may be better served with other courier systems in an emergency situation.

By using the temperature abuse indicators, it was determined that the four smaller blue ice packs that were included in the larger cooler were not adequate during transit times of 12 – 14 hours during the summer months in the Northern Plains states. If cold samples had been also present in the cooler, this would have aided in maintaining the temperature, but packaging with more or larger blue ice packs would be recommended.

There were challenges in using this method of transportation. This courier system is expensive, as it cost $4517.07 to transport the packages between the four state Public Health Laboratories. Even if the exchange was between only two laboratories, the most economical exchange would be between Montana and Wyoming, and that would have cost $1620.90. Maintaining communication between the courier drivers was also problematic, as cell phone service was not always available over the vast distances traveled.

There were steps taken that ensured the success of this exercise. The ability to pre-plan through the conference calls allowed us to work out all the logistics prior to the start of the exercise.

Communication between the four state Public Health Laboratories, the courier system contacts and the courier drivers worked well. Having a system already in place to contact someone after hours at each of the state Public Health Laboratories also contributed to the success of this exercise.

Although this exercise shows that it is possible to exchange through ground transportation samples across state lines, it is not very practical, especially because of the vast distances between the Northern Plains states. Other means of transportation such as commercial air carriers or the U.S. Postal Service would most likely be more economical, as packages could leave in the late afternoon and arrive the following morning, providing just slightly longer transit time.

A follow-up exercise, transporting a cooler of samples from only one state to another using an existing courier pickup route, would be useful in determining the feasibility of this means to transfer samples for testing.